



James C. Codell, III
Secretary of Transportation

Commonwealth of Kentucky
Transportation Cabinet
Frankfort, Kentucky 40622

Paul E. Patton
Governor

Clifford C. Linkes, P.E.
Deputy Secretary

May 12, 2003

PCN 03-0348
Change # 1

Subject: Jefferson County, CB06 056 0148 000-004
Letting May 23, 2003

Listed below are the enclosed changes on the subject project:

- (1) Revised - Special Note for Longitudinal Joint Construction
Joint Adhesive

Your bid must be based upon the above-mentioned change, and this change is to be made a part of the bid proposal, which you submit to the Kentucky Department of Highways.

Specimen proposals may not be used for bidding purposes.

If you have any questions, please contact us at (502) 564-3500.

Sincerely,

A handwritten signature in cursive script that reads "Rick Stansel".

Rick Stansel
Director
Division of Contract Procurement

RS:ks
Enclosures



KENTUCKY TRANSPORTATION CABINET
"PROVIDE A SAFE, EFFICIENT, ENVIRONMENTALLY SOUND, AND FISCALLY RESPONSIBLE TRANSPORTATION SYSTEM
WHICH PROMOTES ECONOMIC GROWTH AND ENHANCES THE QUALITY OF LIFE IN KENTUCKY."
"AN EQUAL OPPORTUNITY EMPLOYER M/F/D"

SPECIAL NOTE FOR LONGITUDINAL PAVEMENT JOINT ADHESIVE

1. DESCRIPTION. This specification covers the requirements and practices for applying an asphalt adhesive material to the longitudinal joint of the surface course of an asphalt pavement. Apply the adhesive to the face of longitudinal joints between driving lanes for the first lane paved. Then, place and compact the adjacent lane against the treated face to produce a strong, durable, waterproof longitudinal joint.
2. MATERIALS, EQUIPMENT, AND PERSONNEL.

2.1 Joint Adhesive. Provide material conforming to Subsection 2.1.1 or 2.1.2.

2.1.1 Provide an adhesive conforming to the following requirements:

Property	Specification	Test Procedure
Viscosity, 400 ° F (Pa·s)	4 – 10	ASTM D 3236
Cone Penetration, 77 ° F	60 – 100	ASTM D 5329
Flow, 140 ° F (mm)	5 max.	ASTM D 5329
Resilience, 77 ° F (%)	30 min.	ASTM D 5329
Ductility, 77 ° F (cm)	30 min.	ASTM D 113
Ductility, 39 ° F (cm)	30 min.	ASTM D 113
Tensile Adhesion, 77 ° F (%)	500 min.	ASTM D 5329
Softening Point, ° F	171 min.	ASTM T 53
Asphalt Compatibility	Pass	ASTM D 5329

Ensure the temperature of the pavement joint adhesive is between 380 and 410 °F when the material is extruded in a 0.125-inch-thick band over the entire face of the longitudinal joint.

2.1.2 Provide an adhesive conforming to the following requirements:

Property	Specification	Test Procedure
Softening Point ¹ , ° F	176 min.	AASHTO T 53
Ash ² (%)	15 max.	AASHTO T 111
Polymer (%)	4.5 min.	Certificate of Analysis
Failure Strain ¹ , -4 ° F (%)	10.0 min.	AASHTO T 314
Slump Test, 212 ° F (mm)	2.0 max.	ASTM D 2202

¹Cold sample forced into molds at 325 ° F.

²Test two grams of material.

Ensure the temperature of the pavement joint adhesive is between 300 and 350 °F when the material is extruded in a 0.20 to 0.40-inch-thick band over the entire face of the longitudinal joint.

2.2. Equipment.

2.2.1 Melter Kettle. Provide an oil-jacketed, double-boiler, melter kettle equipped with any needed agitation and recirculating systems.

2.2.2 Applicator System. Provide a pressure-feed-wand applicator system with an applicator shoe attached.

2.3 Personnel. Ensure a technical representative from the manufacturer of the pavement joint adhesive is present during the initial construction activities and available upon the request of the Engineer.

3. CONSTRUCTION.

3.1 Surface Preparation. Prior to the application of the pavement joint adhesive, ensure the face of the longitudinal joint is thoroughly dry and free from dust or any other debris that would inhibit adhesion. Clean the joint face by the use of compressed air. Ensure this preparation process occurs shortly before application to prevent the return of debris on the joint face.

3.2 Pavement Joint Adhesive Application. Ensure the ambient temperature is a minimum of 40 ° F during the application of the pavement joint adhesive. Prior to applying the adhesive, demonstrate competence in applying the adhesive according to this note to the satisfaction of the Engineer. Heat the adhesive in the melter kettle to the specified temperature range. Pump the adhesive from the melter kettle through the wand onto the vertical face of the cold joint. Apply the adhesive in a continuous band over the entire face of the longitudinal joint. Do not use excessive material in either thickness or location. Ensure the edge of the extruded adhesive material is flush with the surface of the pavement. Then, place and compact the adjacent lane against the joint face. Remove any excessive material extruded from the joint after compaction (a small line of material may remain).

3.3 Pavement Joint Adhesive Certification. Furnish the joint adhesive's certification to the Engineer stating the material conforms to all requirements herein prior to use.

3.4 Sampling and Testing. The Department will require a random sample of pavement joint adhesive from each manufacturer's lot of material. Extrude the heated material into a suitable container, and forward the sample to the Division of Materials for testing. At a minimum, obtain a one-quart sample.

4. MEASUREMENT. The Department will measure the quantity in linear feet. The Department will not measure for payment any extra materials, labor, methods, equipment, or construction techniques used to satisfy the requirements of this note. The Department will not measure for payment any trial applications of pavement joint adhesive, the cleaning of the joint face, or furnishing and placing the adhesive. The Department will consider all such items incidental to the pavement joint adhesive.

5. **PAYMENT.** The Department will pay for the Pavement Joint Adhesive at the Contract unit bid price and apply an adjustment for each manufacturer's lot of material based on the degree of compliance as defined in the following schedule. When a sample fails on two or more tests, the Department may add the deductions, but the total deduction will not exceed 100%.

Longitudinal Joint Adhesive Price Adjustment Schedule						
Test	Specification	100% Pay	90% Pay	80% Pay	70% Pay	50% Pay ⁽¹⁾
Joint Adhesive Referenced in 2.1.1						
Viscosity, 400 ° F (Pa·s)		10.1-10.5	10.6-11.0	11.1-11.5	11.6-12.0	≥ 12.1
ASTM D 3236	4.0-10.0	3.5-3.9	3.0-3.4	2.5-2.9	2.0-2.4	≤ 1.9
Cone Penetration, 77 ° F			54-56	51-53	48-50	≤ 47
ASTM D 5329	60-100	57-103	104-106	107-110	111-113	≥ 114
Flow, 140 ° F (mm) ASTM D 5329	≤ 5.0	≤ 5.5	5.6-6.0	6.1-6.5	6.6-7.0	≥ 7.1
Resilience, 77 ° F (%) ASTM D 5329	≥ 30	≥ 28	26-27	24-25	22-23	≤ 21
Tensile Adhesion, 77 ° F (%) ASTM D 5329	≥ 500	≥ 490	480-489	470-479	460-469	≤ 459
Softening Point, ° F AASHTO T 53	≥ 171	≥ 169	166-168	163-165	160-162	≤ 159
Ductility, 77 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.5	29.0-29.4	28.5-28.9	28.0-28.4	≤ 27.9
Ductility, 39 ° F (cm) ASTM D 113	≥ 30.0	≥ 29.5	29.0-29.4	28.5-28.9	28.0-28.4	≤ 27.9
Joint Adhesive Referenced in 2.1.2						
Softening Point, ° F AASHTO T 53	≥ 176	≥ 174	171-173	168-170	165-167	≤ 164
Ash (%) AASHTO T 111	≤ 15	≤ 16	17	18	19	≥ 20
Failure Strain, -4 ° F (%) AASHTO T 314	≥ 10.0	≥ 9.5	9.2-9.4	8.9-9.1	8.6-8.8	≤ 8.5
Slump Test, 212 ° F (mm) ASTM D 2202	≤ 2.0	≤ 2.5	2.6-3.0	3.1-3.5	3.6-4.0	≥ 4.1

⁽¹⁾ If allowed to remain in place, the Department will review materials performing in this range on a project-by-project basis to determine if removal of the material is warranted.

Code

Pay Item

Pavement Joint Adhesive

Pay Unit

Linear Foot

April 4, 2003